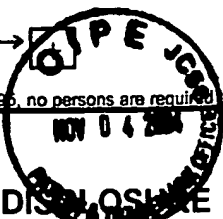


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Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Group Art Unit	2855
Examiner Name	

(use as many sheets as necessary)

Sheet	1	of	1	Attorney Docket Number	1012-188
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Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>3</sup> (if known)			
YCC		4,782,332		Cipris et al.	11/1/1988	
		4,970,492		King	11/13/1990	
		5,332,961		Hammerle	7/26/1994	
		5,434,650		Nakahara et al.	7/18/1995	
		5,571,401		Lewis et al.	11/5/1996	
		5,604,441		Freese, V et al.	2/18/1997	
		5,777,210		Voelker et al.	7/7/1998	
		5,789,665		Voelker et al.	8/4/1998	
		5,818,731		Mittal et al.	10/6/1998	
		5,915,499		Few	6/29/1999	
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		6,536,634		Berndorfer et al.	3/25/2003	
		6,557,396		Ismail et al.	5/6/2003	
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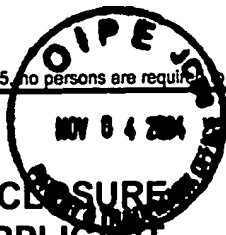
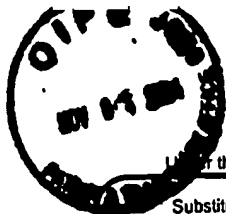
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Sheet 1 of 1

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Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

**U. S. PATENT DOCUMENTS**

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		Number-Kind Code <sup>2</sup> (if known)			
ZC		US- 2002/0162385	11/7/2002	Ismail et al.	
		US- 3,710,275	1/9/1973	Tanaka et al.	
		US- 4,549,427	10/29/1985	Kolesar, Jr.	
		US- 4,802,370	2/7/1989	EerNisse et al.	
		US- 5,334,900	8/2/1994	Kawashima	
		US- 5,445,008	8/29/1995	Wachter et al.	
		US- 6,286,363	9/11/2001	Discenzo	
		US- 6,644,095	11/11/2003	Van Mullekom et al.	
		US- 6,023,961	2/15/2000	Discenzo et al.	
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**FOREIGN PATENT DOCUMENTS**

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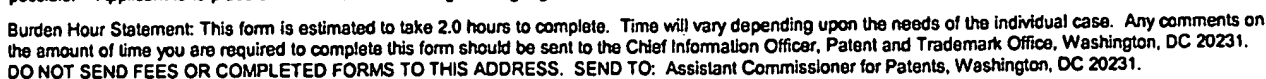
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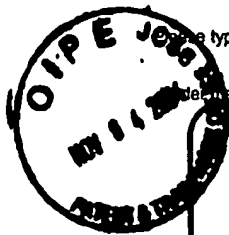
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/804,379
		Filing Date	03-19-04
		First Named Inventor	Kolosov et al.
		Group Art Unit	2855
Examiner Name			
Sheet 1	of 1	Attorney Docket Number	1012-188

U.S. PATENT DOCUMENTS						
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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		5,455,475		Josse et al.	10/1995	
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		5,488,866		Ravel et al.	2/1996	
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		5,776,359		Schultz et al.	07/1998	
		5,852,229		Josse et al.	12/1998	
		5,889,351		Okumura et al.	03/1999	
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		6,044,694		Anderson et al.	04/2000	
		6,182,499 B1		McFarland et al.	02/2001	
		4,729,237		Suzuki et al.	03/08/1988	
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		4,312,228		Wohltjen	01/26/1982	
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		4,760,351		Newell et al.	07/26/1988	

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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

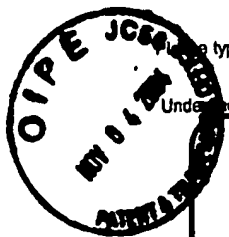
Examiner Signature	<i>Ben Carter</i>	Date Considered	6-1-06
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<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/804,379
		Filing Date	03-19-04
		First Named Inventor	Kolosov et al.
		Group Art Unit	2855
		Examiner Name	
Sheet 1	of 1	Attorney Docket Number	1012-188

U.S. PATENT DOCUMENTS						
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		Number	Kind Code <sup>2</sup> (if known)			
JK		4,103,224		Taro et al.	7/25/1978	
		5,885,849		Di Stephano et al.	3/23/1999	
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		6,126,311		Schuh	10/3/2000	
		6,041,642		Duncan	3/28/2000	
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		5,338,416		Mlcak et al.	8/16/1994	
		5,464,509		Mlcak et al.	11/7/1995	
		6,275,137		Doppalapudi et al.	8/14/2001	
		6,311,549		Thundat et al.	11/6/2001	
		6,441,716		Doppalapudi et al.	8/27/2002	
		6,511,915		Mlcak	1/28/2003	
		2002/0068488		Tuller et al.	6/6/2002	
		2002/0070841		Doppalapudi et al.	6/13/2002	
		2002/0137348		Mlcak	9/26/2002	
		4,862,384		Bujard	8/29/1989	
		6,661,162		Nagai et al.	12/9/2003	
		5,325,704		Mariami et al.	7/5/1994	

FOREIGN PATENT DOCUMENTS								
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>3</sup>
		Office <sup>2</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

Examiner Signature	<i>John Carter</i>	Date Considered	6-1-06
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Sheet 1 of 1

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Group Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

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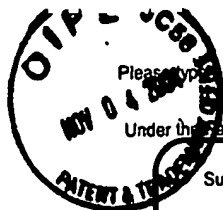
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 1

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Examiner Name	
Attorney Docket Number	1012-188

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		Number	Kind Code <sup>2</sup> (if known)			
✓		5,918,354		Ikegami et al.	7/6/1999	
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		3,903,732		Rork et al.	9/9/1975	
		4,602,505		Kanda et al.	7/29/1986	
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		4,802,384		Schwarz et al.	2/7/1989	
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		5,741,962		Birchak et al.	4/21/1998	
		5,006,845		Calcar et al.	4/9/1991	
		5,622,223		Vasquez	4/22/1997	
		2003/0179002		Beylich et al.	9/25/2003	

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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>2</sup> (if known)				
✓			JP 11094726		Suzuki et al.	9/19/1997		
			WO 02/077613		Goodwin et al.	10/3/2002		

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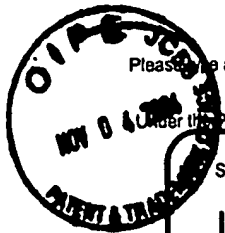
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1

of 1

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K		5,235,844		Bonne et al.	8/17/1993	
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		2003/0062910		Wang et al.	4/3/2003	
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### FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>3</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>2</sup> (if known)				
K			EP 0813236		Kaldenberg	12/17/1997		
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			WO 03/054482		Phillips et al.	7/3/2003		
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 1

**Complete if Known**

Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Group Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

## U.S. PATENT DOCUMENTS

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 0

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RC		FISCH, M.R., et al., "Improved Acoustic Viscosimeter Technique", J. Acoust. Soc. Am., September 1976, pp. 623-625, v. 60, No. 3.	
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Sheet 1 of 0

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Application Number 10/804,379

Filing Date 03-19-04

First Named Inventor Kolosov et al.

Group Art Unit 2855

Examiner Name

Attorney Docket Number 1012-188

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RC		Patent Abstracts of Japan, Publication No. 05-129874, Application No. 03-291660, filing date 11/7/1991, Applicant: Seiko Epson Corp.	
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Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Group Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

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RC		LI et al., Electromechanical Behavior of PZT-Brass Unimorphs, Journal of the American Ceramic Society, Vol. 82, No. 7, 1999, pages 1733-1740.	
		LANDAU et al., Fluid Mechanics, pages 96 and 97.	
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		KARRAI, "Lecture Notes on Shear and Friction Force Detection." March 2000	

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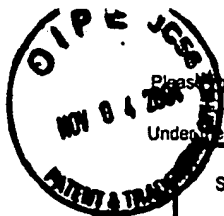
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RC		U.S. Application Serial No. 09/420,334 entitled "Graphic Design of Combinatorial Material Libraries" (Lacy, et al.) filed on October 18, 1999	
		U.S. Patent Application Serial No. 09/305,830 titled "Synthesizing Combinatorial Libraries of Materials" (Rust, et al.) filed on May 5, 1999	
		U.S. Application Serial No. 09/755,623 entitled "Laboratory Database System and Methods For Combinatorial Materials Research" (Dorsett, Jr., et al.) filed on January 5, 2001.	
		The family of applications for U.S. Patent Application Serial No. 09/174,856 titled "Graphic Design of Combinatorial Material Libraries" (Lacy, et al.) filed on October 19, 1998.	
		U.S. Application Serial No. 09/550,549 entitled "Automated Process Control And Data Management System And Methods" (Crevier, et al.) filed on April 14, 2000.	
		U.S. Patent Application Serial No. 09/800,819 entitled "Method and Apparatus for Characterizing Materials by Using a Mechanical Resonator" filed on March 7, 2001.	
		U.S. Patent Application Serial No. 09/580,024 entitled "Instrument for High Throughput Measurement of Material Physical Properties and Method of Using the Same" filed on May 26, 2000.	
		U.S. Patent Application Serial No. 10/155,207 entitled "High Throughput Microbalance and Methods of Using Same" filed on May 24, 2002.	
		U.S. Patent Application Serial No. 09/285,963 entitled "Rapid Characterization of Polymers" (Safir et al.) filed on April 2, 1999.	
		PCT International Search Report, dated 21 October 2002, PCT/US02/17780 (1012-167WO)	

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		Application Number	10/804,379
		Filing Date	03-19-04
		First Named Inventor	Kolosov et al.
		Group Art Unit	2855
		Examiner Name	
Sheet <u>1</u>	of <u>0</u>	Attorney Docket Number	1012-188

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Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
hc		MATSIEV, "Application of Flexural Mechanical Resonators to Simultaneous Measurements of Liquid Density and Viscosity", 1999 IEEE UltraSonics Symposium, pp. 457-460.	
hc		HAMMOND et al., "Sensor", Department of Electrical and Computer Engineering, University of Maine, pp. 1342-	

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 0

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RL		Pamphlet, "Hygroscopicity Measurement Apparatus," PUUMAN (no date).	
		Laine, E., and M. Aarnio, "Device for the Investigation of Humidity-related Behaviours of Materials," Department of Physics, University of Turku (no date).	
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		Barnes C., "An in vitro urea sensor using a torsion-wave crystal device", Sensors and Actuators B, 8 (1992) 143-149.	
		Schmitt N. et al., "A new method based on acoustic impedance measurements for quartz immunosensors", Sensors and Actuators B43 (1997) 217-233	

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*Ryan (Dts)*

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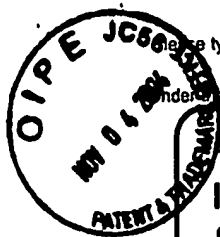
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 0

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nc		Senstronics "Storm 50 Joint Pressure and Temperature Specifications".	
		"Cantilever Sensor Research Tool for Science and Industry", diScentris, Veeco.	
		BENES et al., "Viscosity Sensor Based on a Symmetric Dual Quartz Thickness Shear Resonator", pages 1-7. 2003.	
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		NUSSBAUM, "An Accurate Non-Radioactive Fluid Density Sensor", presentation to the Society of Petroleum Engineers, Bergen, Norway, April 1, 2003.	
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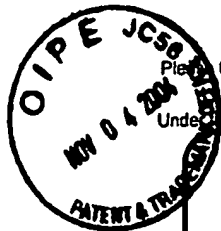
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Substitute for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 0

### Complete if Known

Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Group Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
Re		"Theory of the Vibrating Tuning Fork Fluid Density Tool", www. lncs.ac.uk, page 1, accessed on May 7, 2003.	
		"A Vibrating Tuning Fork Fluid Density Tool", www. smithinst.ac.uk, page 1, accessed on February 2, 2004.	
		"SINIMS Oil and Gas Workshop", Draft: Notes of presentations and discussions, ICMS, Edinburgh, March 11, 2002.	
		"Field Trials of The Viscosity & Fluid Density Tool (VFD)", Nan Gall Technology, published August 2002.	
		"ViscoMaster HFO Viscosity Transmitter for Marine and Power Applications", Solartron Mobrey.	
		"CJV-5000 Vibro Viscometer Utilizing Tuning-Fork Technology", Yahoo Search accessed on June 18, 2003.	
		"SOS-Smart Oil Sensor", Impact Technologies, LLC.	
✓		Pamphlet by Kavlico-A Solectron Company, Capability Brochure Industrial Sensors and Transducers.	

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		Pamphlet by Kavlico-A Solectron Company, Capability Brochure Industrial Sensors and Transducers.	

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Signature

*Ryan Carter*

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*6-1-06*

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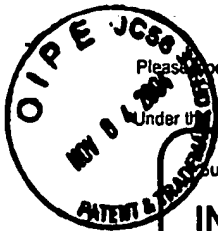
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KL		A&D Weighing, SV Series Users' Handbook V1.04E, pp. 1-40.	
		"EPSON presents the MC-30A: Reliable 32.768kHz Dedicated to Automotive Applications", August 25, 2003, www.epson.com, accessed on February 11, 2004.	
		LEC et al., "A Remote Acoustic Engine Oil Quality Sensor", 1997 IEEE UltraSonics Symposium, pp. 419-422.	
		ZHANG et al, "Contributions of Amplitude Measurement in QCM Sensors", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 43, No. 5, September 1996, pp. 942-947.	

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 0

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Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Group Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

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MC		SMITH et al., Water Sorption Isotherms and Enthalpies of Water Sorption by Lysozyme Using the Quartz Crystal Microbalance/heat Conduction Calorimeter, BIOCHIMICA et BIOPHYSICA ACTA, October 4, 2001, pages 150-159.	
		ULBRICHT, Helmar, Crimpen-eine ausgereifte AnschluBtechnik	
		International Search Report dated 8/4/2004, PCT/US2004/008552	
		Zeisel et al., A PRecise and Robust Quartz Sensor Based on Tuning Fork Technology for (SF6)- Gas Density Control, Elsevier Sciences, 2000	

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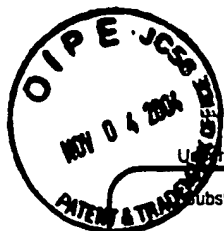
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STATEMENT BY APPLICANT**

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Sheet 1 of 1**Complete if Known**

Application Number	10/804,379
Filing Date	03-19-04
First Named Inventor	Kolosov et al.
Art Unit	2855
Examiner Name	
Attorney Docket Number	1012-188

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
RC		US- 6,223,589	05/01/2001	Dickert et al.	
RC		US- 4,893,496	1/16/1990	Bau et al.	
		US-			
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**FOREIGN PATENT DOCUMENTS**

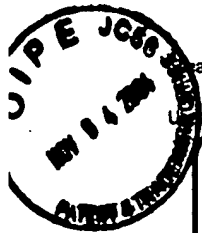
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
RC		EP 0 769 695 A	4-23-1997	NGK Insulators LTD		
↓		DE 100 14 724	9-27-2001	Endress Hauser GMBH Co.		
		JP 59126931	7-21-1984			

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<b>Substitute for form 1449B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/804,379
		Filing Date	03-19-04
		First Named Inventor	Kolosov et al
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Sheet 1	of 0	Attorney Docket Number	1012-188

<b>OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS</b>			
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gc		J.W. Grate, et al, "Smart Sensor System for Trace Organophosphorus and Organosulfur Vapor Detection Employing a Temperature-Controlled Array of Surface Acoustic Wave Sensors, Automated Sample Preconcentration, and Pattern	
		"Viscosity and Density Sensing with Ultrasonic Plate Waves, B.A. Martin, S.W. Wenzel, and R.M. White, Sensors and Actuators, A21-A23 (1990), 704-708	
		"On-line Sensor for Density and Viscosity Measurement of a Liquid or Slurry for Process Control in the Food Industry" Margaret S. Greenwood, Ph.D. James R. Skorpik, Judith Ann Bamberger, P.E. Sixth Conference on Food Engineering, 1999 AIChE Annual Meeting, Dallas, Texas	
		"Micromachined viscosity sensor for real-time polymerization monitoring", O.Brand, J.M. English, S.A. Bidstrup, M.G. Allen, Transducers '97, 121-124 (1997)	
		"Frequency response of cantilever beams immersed in viscous fluids with applications to the atomic force microscope", J.E. Sader, J. Appl. Phys. 84, 64-76 (1998)	
		"Resonance response of scanning force microscopy cantilever", G.Y. Chen, R.J. Warmack, T.Thundat, and D.P. Allison, Rev. Sci. Instrum. 65, 2532-2537(1994)	
		"Lecture notes on shear and friction force detection with quartz tuning forks" Work presented at the "Ecole Thématique du CNRS" on near-field optics, March 2000, La Londe les Maures, France by Khaled Karrai, Center for	
		J. Sorab, G.S. Saloka: "Engine Oil Viscosity Swnsors Using Disks of PZT Ceramic as Electromechanical Vibrators" Society of Automotive Engineers SAE, no. 971702, 1997	
		E. Bohmer, "Elemente der angewandten Elektronik", August 1978, with English translation	

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nc		Zhang et al.: "Determination of Liquid density with a low frequency mechanical sensor based on quartz tuning fork" Sensors and Actuators B, Elsevier Sequoia S.A. Lausanne, CH. vol. 84, no. 2-3, May 15, 2002, pages 123-128.	
		Shih et al.: "Simultaneous Liquid Viscosity and Density Determination with Piezoelectric Unimorph Cantilevers: Journal of Applied Physics, American Institute of Physics. New York, U.S., vol. 89, no. 2, January 15, 2001, pages 1497-1505.	
		Dring et al.: "Integrated on-line multisensing of fluid flow using a mechanical resonator" Sensors and Actuators A, Elsevier Sequoia S.A., Lausanne, CH, vol. 85, no. 1-3, August 25, 2000, pages 275-279.	
		International Search Report dated March 22, 2004 (PCT/US03/32982) 1012.183WO	
		International Search Report dated December 12, 2003 (PCT/US03/12503) 1012.171WO	
		Greenwood et al., "Measurement of Viscosity and Shear Wave Velocity of a Liquid or Slurry for On-line Process Control", Ultrasonics 39 (2002) pp. 623-630.	
		"Sensors", www.izm.fhg.de, accessed on October 3, 2002.	
		"Sensors and Actuators, INTELLEK Oil Condition Sensor", DELPHI Energy and Chassis Systems.	
		MURAMATSU et al., "Viscosity Monitoring with a Piezoelectric Quartz Crystal and Its Application to Determination of Endotoxin by Gelation of Limulus Amebocyte Lysate", March 8, 1988.	
		LANGDON, "Vibratory Process Control Transducers", The Marconi Review, Third Quarter, 1980, pp 156-175.	
		Invitation to Pay Additional Fees, PCT/US03/32983, mailed April 8, 2004. (1012.192WO)	

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